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Examiner: Sharon E. Kennedy
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AMENDMENTS TO THE CLAIMS

1. (Original) A device for delivering fluid to a patient, comprising:
- A) an exit port assembly adapted to connect to a transcutaneous patient access tool;
 - B) a flow path extending from the exit port assembly; and
 - C) a flow condition sensor assembly including,
 - a resilient diaphragm having opposing first and second surfaces, with the first surface positioned against the flow path,
 - a chamber wall positioned adjacent the second surface of the diaphragm and defining a sensor chamber adjacent the second surface of the diaphragm, and
 - at least one sensor arranged to provide a threshold signal when the second surface of the diaphragm expands into the chamber in response to at least one predetermined fluid flow condition occurring in the flow path.

Claims 2-50 (Canceled)

51. (Original) A device for delivering fluid to a patient, comprising:
- A) a flow path extending from the exit port assembly;
 - B) a flow condition sensor assembly including,

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a resilient diaphragm having opposing first and second surfaces, with the first surface positioned against the flow path,

a chamber wall positioned adjacent the second surface of the diaphragm and defining a sensor chamber adjacent the second surface of the diaphragm, and

at least one sensor arranged to provide a threshold signal when the second surface of the diaphragm expands into the chamber by a predetermined amount; and

C) a processor connected to the sensor and programmed to provide a signal indicative of an undesired flow condition upon receiving the threshold signal from the sensor for more than a predetermined maximum period or for less than a predetermined minimum period.

89. (Original) A method for determining a fluid flow condition in a flow path, comprising:

positioning a first side of a resilient diaphragm against the flow path;

positioning a chamber wall adjacent a second surface of the diaphragm, the chamber wall defining a sensor chamber adjacent the second surface of the diaphragm;

providing a threshold signal when the second surface of the diaphragm expands into the chamber by a predetermined amount;

timing the duration of the threshold signal; and

providing a signal indicative of a predetermined flow condition if the duration of

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the threshold signal is greater than a predetermined maximum period or less than a predetermined minimum period.

90. (Original) A method according to claim 89, further comprising activating an alarm upon providing a signal indicative of a predetermined flow condition.

91. (Original) A method according to claim 89, further comprising providing the sensor chamber with a predetermined volume.

92. (Original) A method according to claim 89, further comprising providing the sensor chamber with a predetermined volume and providing a threshold signal when the second surface of the diaphragm contacts the chamber wall.

93. (Original) A method according to claim 89, further comprising providing the flow path with a substantially fixed and predetermined volume.

94. (Original) A method according to claim 89, wherein the predetermined fluid flow condition comprises one of an occlusion in the flow path, and an inadequate flow of fluid in the flow path.

95. (Original) A method according to claim 89, further comprising:

closing the flow path;

causing a volume of fluid at least equal to a volume of the sensor chamber to flow into the fluid path; and

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providing a signal indicative of an occlusion test failure if the duration of the threshold signal is less than the predetermined maximum period.

96. (Original) A method according to claim 95, further comprising positioning a second diaphragm against the flow path.

97. (Original) A method according to claim 89, further comprising:

providing pulsatile flow of fluid within the flow path; and

monitoring the threshold signals between pulses of fluid.